Prior Art

FIGURE 1

Gateway A and B know about Middleboxes 1 and 2 respectively either through provisioning or by discovery
S
Call Servers/proxies
18
21
Gateway B
Address Realm D3
Middlebox 2
11
Address Realm D2
User B
16
B
M
S
Control of Distributed Network Elements using a signalling proxy
Gateway A
20
Middlebox 1
10
Address Realm D1
B
Signalling path
Bearer path
MB Control
S
User A
14

FIGURE 2

Control of Distributed Network
Elements using a signalling proxy

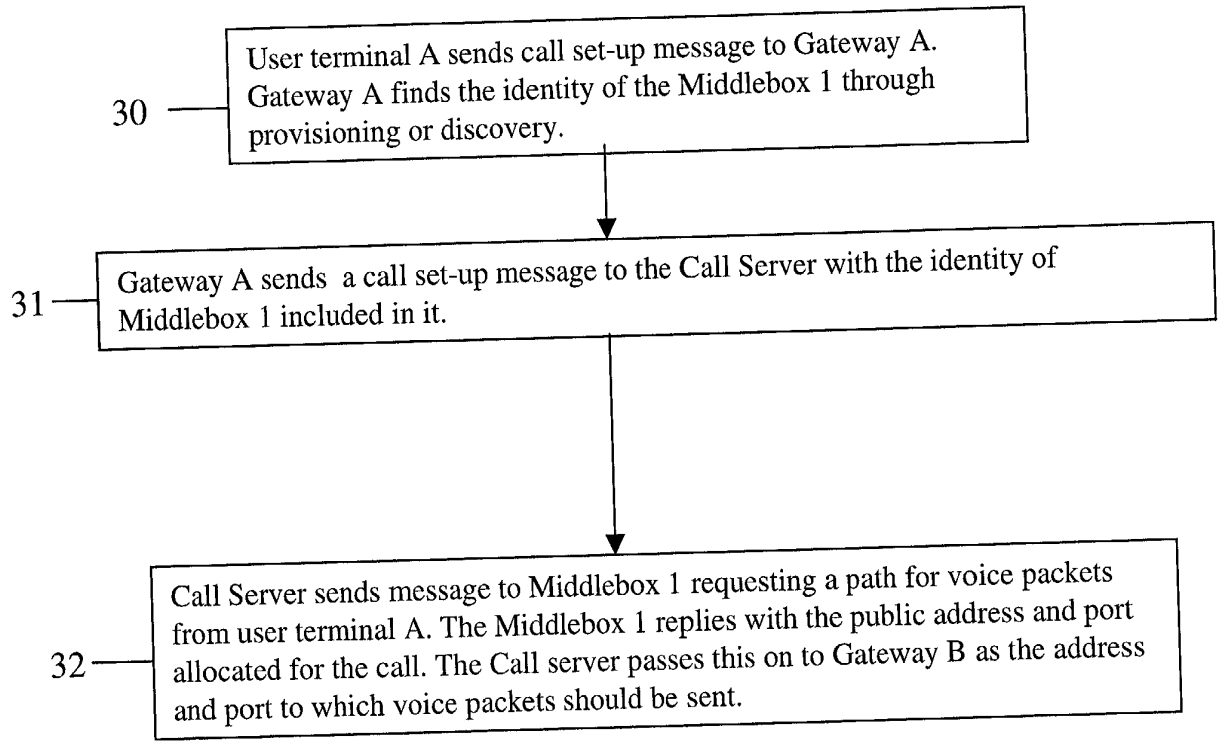


FIGURE 3

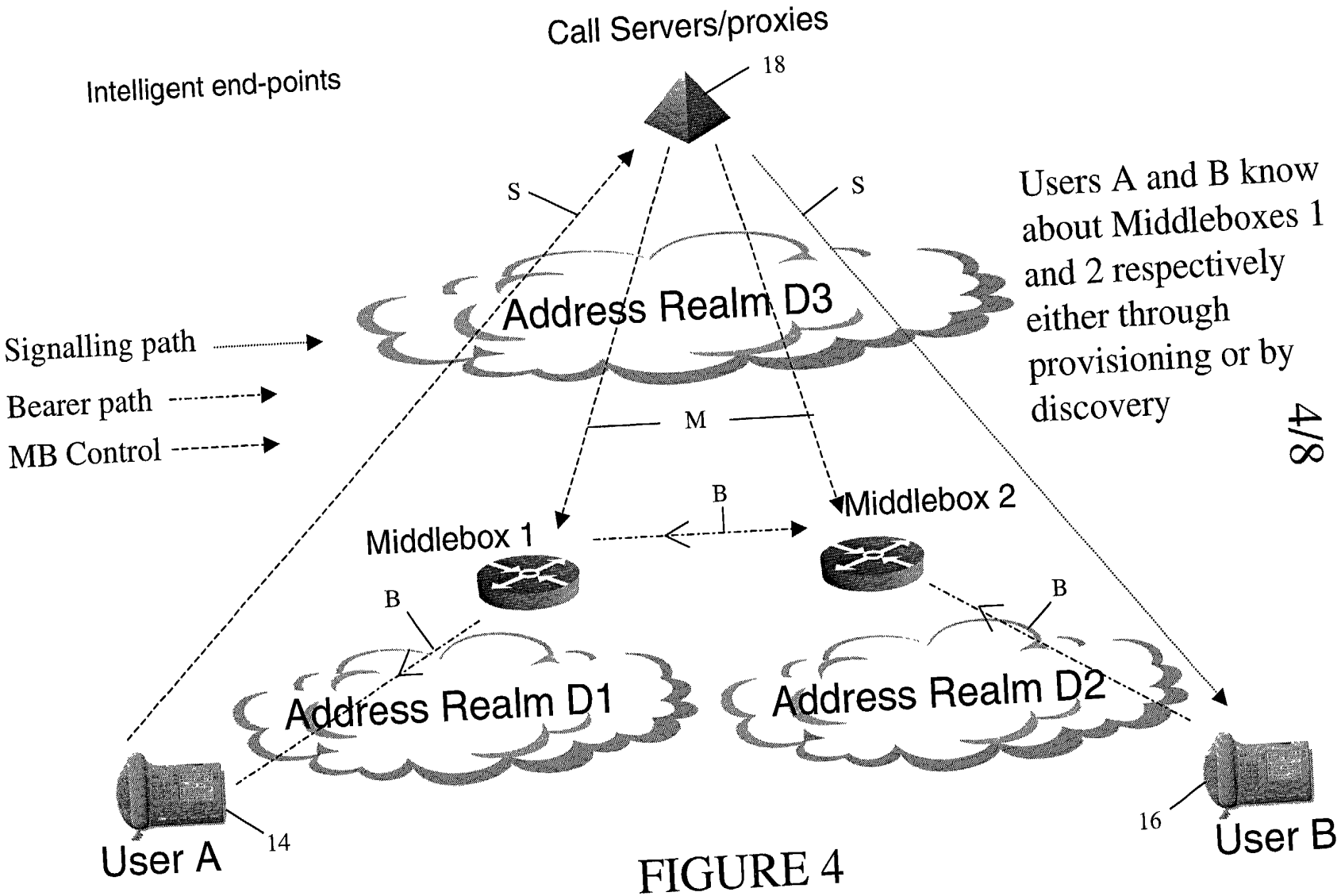

Call Servers/proxies
18
Intelligent end-points
S
S
Users A and B know about Middleboxes 1 and 2 respectively either through provisioning or by discovery
Address Realm D3
Signalling path
Bearer path
MB Control
M
B
Middlebox 2
Middlebox 1
B
B
Address Realm D1
Address Realm D2
16
User B
14
User A

FIGURE 4

Intelligent end-points

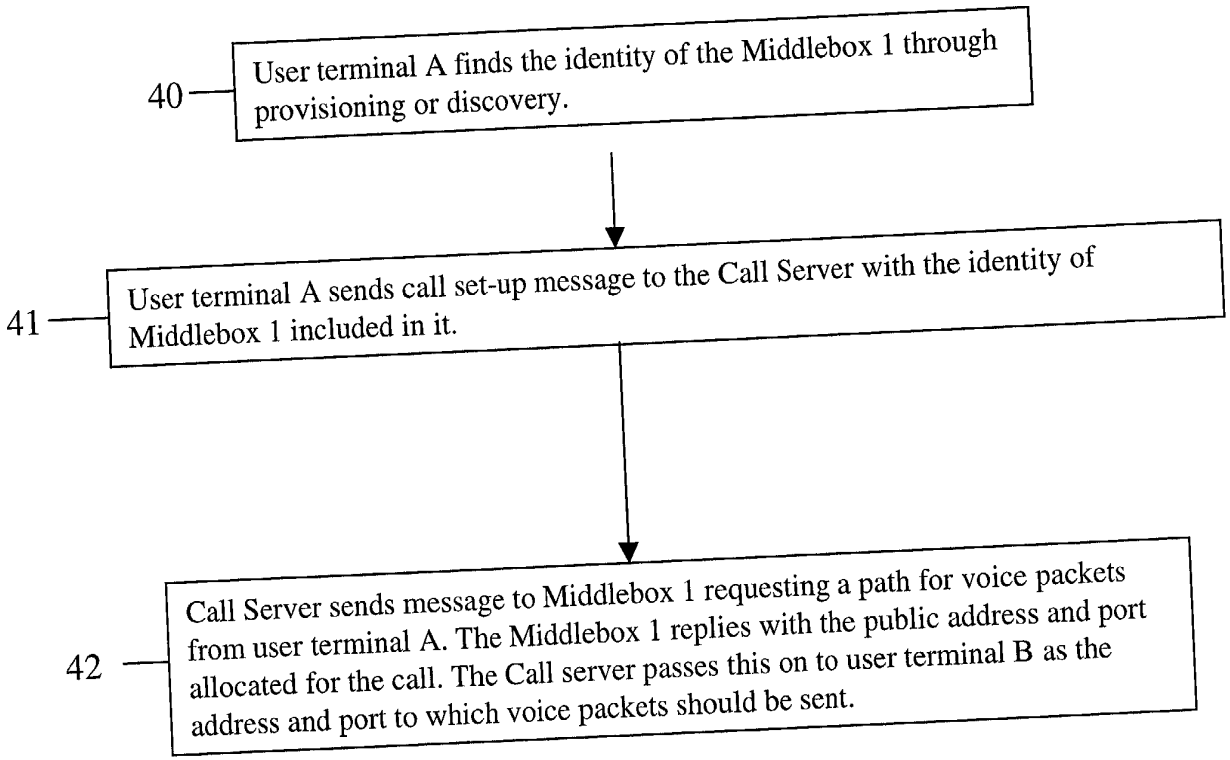


FIGURE 5

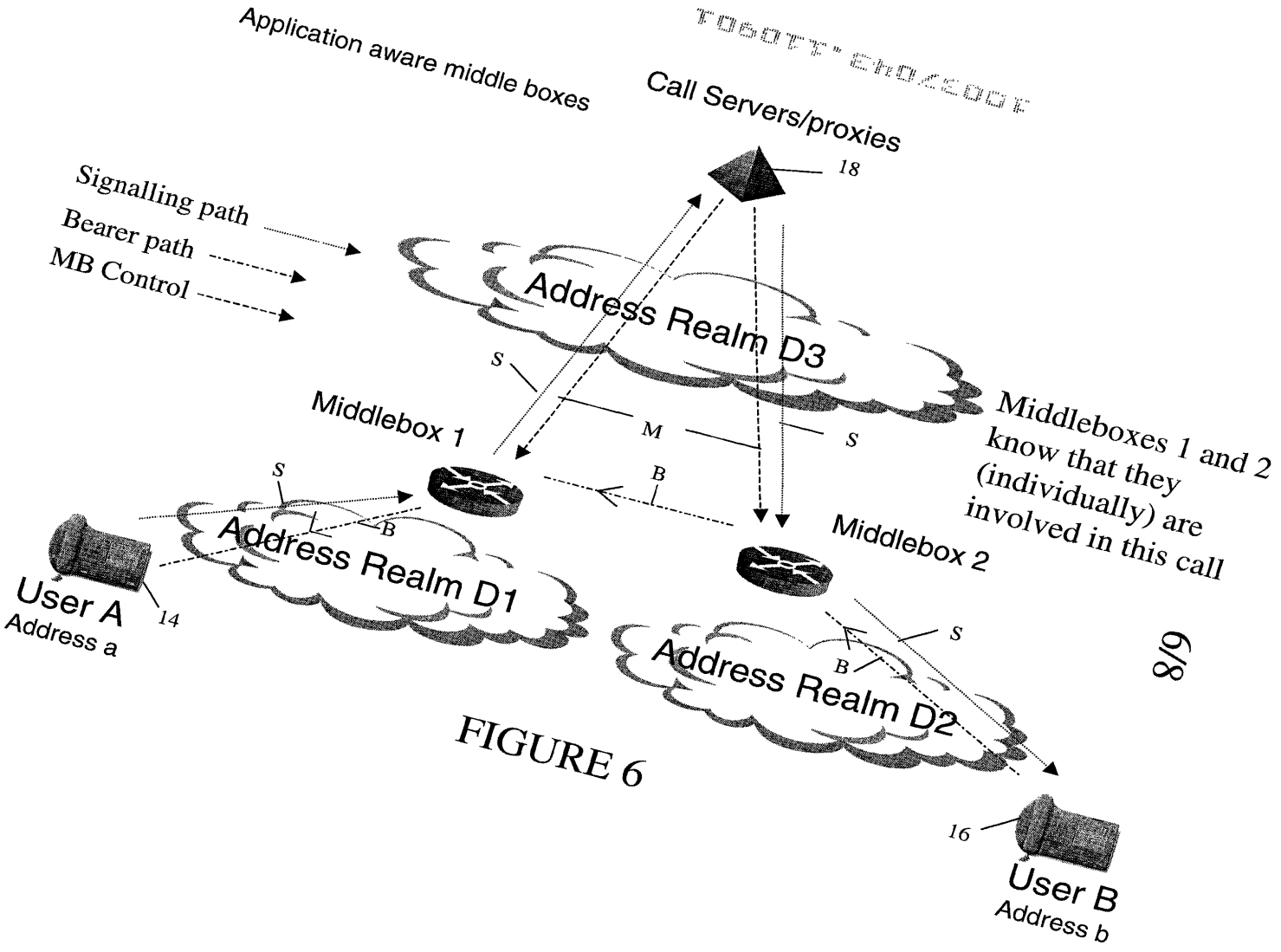

Application aware middle boxes
Call Servers/proxies
18
Signalling path
Bearer path
MB Control
Address Realm D3
S
M
S
Middlebox 1
Middleboxes 1 and 2
know that they
(individually) are
involved in this call
S
B
B
Address Realm D1
Middlebox 2
User A
Address a
14
S
B
Address Realm D2
16
User B
Address b

FIGURE 6

Application aware middle boxes

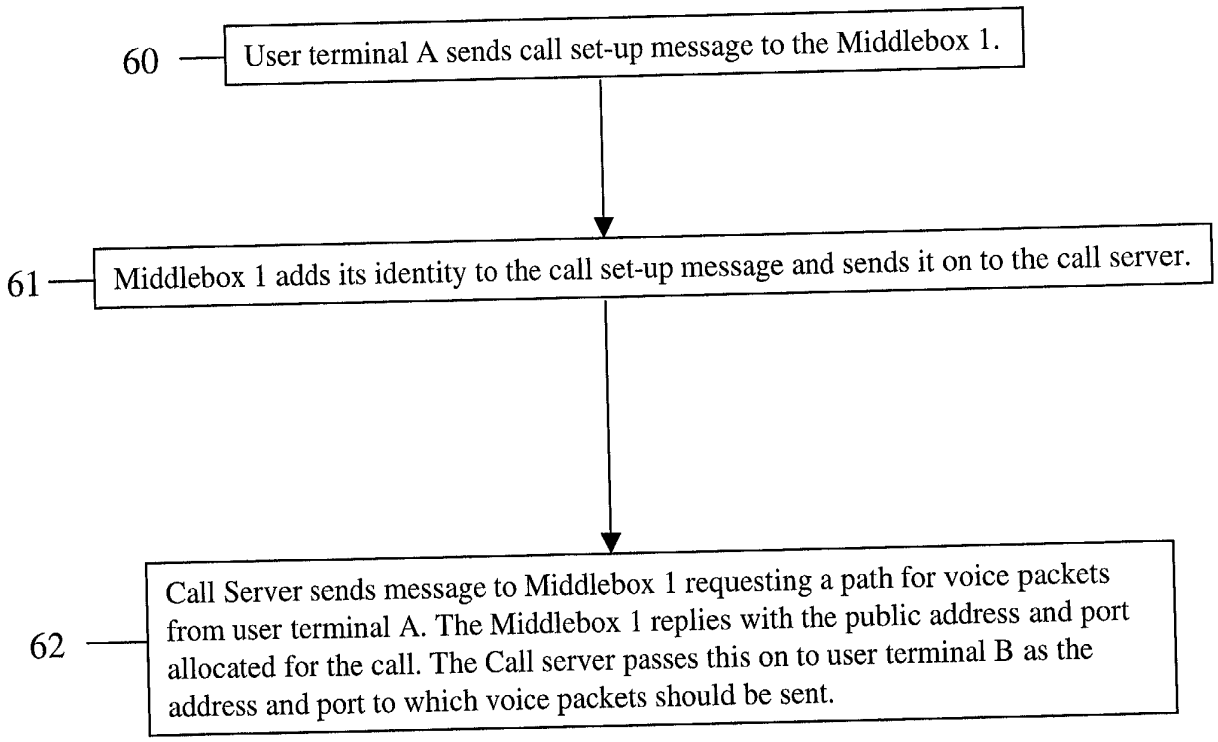
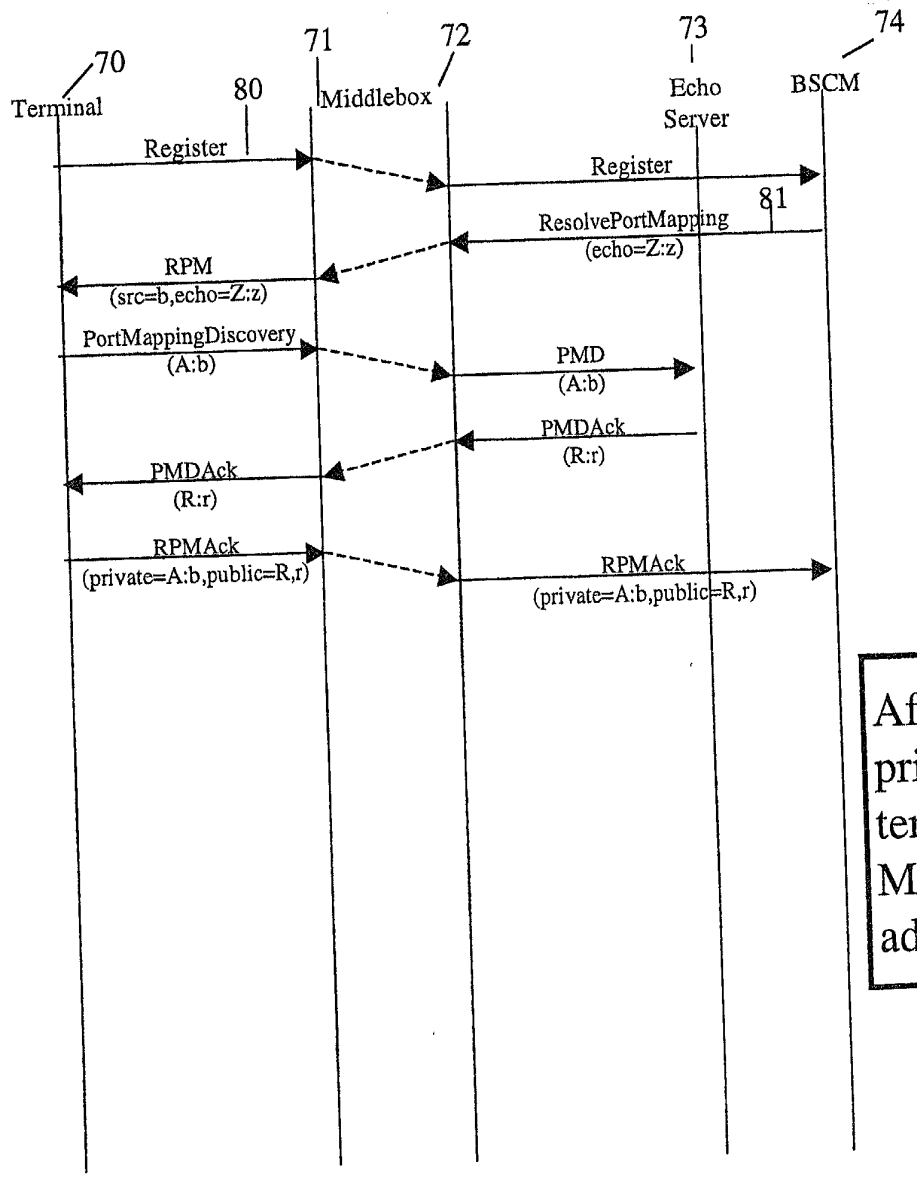


FIGURE 7



Prior Art

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After this, the Gateway knows the private address and port for the terminal and can deduce the Middlebox identity from the public address and port

FIGURE 8